

## **MAINTENANCE AND WARRANTY FOR ADVANCED TRAFFIC MANAGEMENT SYSTEM WORK - Item No.**

Special Provision No. 681F25

June 2017

### **1. SCOPE**

This Special Provision covers the requirements for maintenance and warranty for all ATMS components supplied, installed, replaced or modified.

### **2. REFERENCES - Not Used**

### **3. DEFINITIONS**

For the purpose of this Special Provision, the following definitions apply:

**Critical Failure** means any failure such as malfunction of VMS, CCTV, QWS or RMS or failure related to the high speed data transmission equipment or cable plant which causes communications loss such as, but not limited to, loss of video images or loss of remote access to VMS operations.

**Emergency Repairs** means any activity required to bring the Subsystem to full functionality according to the specifications other than Routine Maintenance activities.

**Equipment** means all electrical or mechanical devices and vehicles used or reasonably required for use in Emergency Repairs or Routine Maintenance of the System Components.

**Non-Critical Failure** means any defective equipment operation that degrades the system performance such as, but not limited to, loss of camera control or individual pixel failure on VMS.

**Routine Maintenance** means ongoing preventive maintenance activities in accordance with the manufacturer's recommendations and in accordance with the System Components maintenance and service manuals and includes the periodic adjustment of system components to correct deviations from system specifications resulting from normal operation of the System.

**System Components** means all new and existing hardware and software components, devices, parts and materials included in the ATM System or Subsystem supplied, installed, modified or replaced under Phase I including all spare parts supplied by the Contractor.

### **4. DESIGN AND SUBMISSION REQUIREMENTS**

#### **4.1 Submission Requirements**

- 4.1.1 Two weeks prior to anticipated acceptance of Phase I of the Contract, the Contractor shall submit a letter of intent indicating his readiness to proceed to Phase II of the Contract and the intention to submit the letter of credit. The letter of intent shall indicate the name of financial institution that will issue the letter of credit. The Contractor shall also provide a draft letter of credit together with the letter of intent for review by the Contract Administrator.

The Contractor shall provide upon the date of acceptance of Phase I of the Contract an irrevocable letter of credit payable to the Minister of Finance, Minister of Transportation and Manager of Traffic

Office, Central Region in the amount of 100% of the Contract price for the Maintenance and Warranty Contract item. This letter of credit shall constitute a guarantee of performance and shall be returned to the Contractor one month following the completion of Phase II except in the event of default. The letter of credit shall be issued by a Canadian Chartered Bank or Financial Institution, as approved by the Owner and shall have offices to administer such Letter of Credit within the following geographical area:

[\* Designer Fill-In, See Notes to Designer]

The final Letter of Credit shall be provided to the Owner within 5 business days of achieving acceptance of Phase I.

- 4.1.2 The Contractor shall submit all name(s), contact information and experience records showing 3 or more years of experience of the staff qualified to undertake ATMS repairs. At least one maintenance person shall be local to the system area and located within [\*\*Designer Fill-In, See Notes to Designer] km distance to the Contract limits.
- 4.1.3 The Contractor shall submit field work logs indicating emergency repair and routine maintenance works completed within the invoice period, their location scope, date and list of parts that were replace (including an indication if they were taken from the Owner inventory) to the Contract Administrator along with the quarterly invoices. The log submission will form basis for invoice payment.

## **5. MATERIALS**

Two sets of any special tools required to carry out maintenance work shall be supplied by the Contractor within 10 business days of start of Phase II.

## **6. EQUIPMENT – Not Used**

## **7. CONSTRUCTION**

### **7.1 Duration**

The duration of Phase II shall be 1826 consecutive calendar days following the date of acceptance of Phase I.

### **7.2 Operational Constraints (Traffic Control)**

The Contractor shall follow all operational constraints established by the Owner for traffic control when performing Routine Maintenance and Emergency Repairs.

Should lane closures be necessary during Routine Maintenance the Contractor shall provide written notice of its requirements to the Owner at least 72 hours in advance of the start of the work. The Contractor shall follow the lane closure notification procedures established by the Owner.

Should lane closures be required during Emergency Repairs they shall be carried out according to the procedures provided by the Owner.

### **7.3 Repairs and Spare Parts**

The repairs shall cover any equipment malfunctions for all System Components. If the replacement of any existing components is required, the Contractor shall utilize the replacement part(s) from the spare inventory maintained by the Owner.

Any required replacement of components supplied by the Contractor under this Contract shall be the responsibility of the Contractor.

The Contractor shall be the warrantor of all labour component of the work for the duration of the Contract.

Any System Component supplied by the Contractor, returned for repair or replacement under warranty, shall be repaired or replaced with identical or 100% compatible System Component and returned to the Owner within 60 days.

The cost of repair for existing system components shall be paid for as a Change in the Work.

### **7.4 Warranty**

The warranty shall cover any defects in materials and workmanship for all System Components. Any replacements required during Phase II shall be made at no additional cost to the Owner.

The Contractor shall be the warrantor of all System Components notwithstanding any supplier's warranties whether written or implied.

Any System Component returned for repair or replacement under warranty during Phase II shall be repaired or replaced with identical or 100% compatible System Component and returned to the Owner within sixty (60) days.

### **7.5 Maintenance**

The Contractor shall maintain all System Components in good working condition in accordance with the Contract Documents and shall provide all Routine Maintenance and Emergency Repairs required to carry out this obligation.

Routine Maintenance shall comply with the manufacturer's recommendations and be in accordance with the subsystems components operations and maintenance manuals.

One month prior to commencement of Phase II, the Contractor shall identify in writing the procedures and schedule for Routine Maintenance and submit this procedure and schedule to the Contract Administrator for review.

One month prior to commencement of Phase II, the Contractor shall provide on call local Emergency Repair service and such service shall be available 24 hours a day 7 days a week for the full 1826 day duration of Phase II. Emergency Repairs shall be required whenever there is a failure or cessation of operation of any component(s) of the ATM System.

Routine Maintenance shall include seasonal adjustments of advanced traffic management system equipment as detailed in the Contract Documents.

Maintenance shall also include the following work in addition to standard maintenance activities and seasonal equipment adjustments: [\*\*\* Designer Fill-In, See Notes to Designer]

During the maintenance and warranty period, the Contractor shall enter a precise description of work performed into the log book located on site. The description of work performed shall include the following:

- a) Logging the component or module failure;
- b) Logging the serial number of failed module and replacement part, if applicable;
- c) Logging the corrective action performed;
- d) Logging of recommended preventive measures that may reduce or prevent similar failures, if applicable.

## **7.6 Response, Notification and Restoration**

One month prior to commencement of Phase II, the Contractor shall clearly identify in writing the designated contact person and alternate for liaison with the Owner. The Owner will designate representatives and alternates as contact persons for the Traffic Operations Centre (TOC) and the field equipment and provide this information to the Contractor.

The Contractor shall liaise with the Owner's maintenance personnel and shall notify the designated Owner representative or alternate prior to undertaking any Routine Maintenance or Emergency Repairs. The Owner's staff shall have the option to accompany the Contractor's staff when Routine Maintenance or Emergency Repairs are carried out. The Contractor shall record all entries into field cabinets and the TOC in the log books provided by the Owner.

The Contractor shall respond to Emergency Repair calls by the Owner or the designated alternate. The time taken by the Contractor to reach the site of the malfunction and commence repairs following notification of a need for Emergency Repairs shall:

- a) Not exceed four hours for non-critical failures.
- b) Be immediate and not exceed two hours at any time for Critical Failures.

For Non-Critical failures the Contractor shall have 24 hours from the time of receipt of notification of a defect to restore the subsystems to a full functional condition meeting all requirements of the Contract Documents.

Critical Failures shall be restored to a full functional condition meeting all requirements of the specifications and to the satisfaction of the Owner's representative within 12 hours of notification of the failure.

## **7.7 Replacement of System Components**

System Components required to perform Routine Maintenance and Emergency Repairs may, at the option of the Contractor, be obtained from the inventory of spare System Components supplied by the Contractor under Phase I of the Contract except that where a component fails under ordinary operating conditions and insufficient or no spare components were provided under Phase I of the Contract, the Contractor shall supply the replacement components.

One month prior to commencement of Phase II of the Contract, the Contractor shall supply a proposed price list for major systems components (those covered by individual tender items, plus those listed as being

supplied as spare components), a detailed maintenance schedule, a list of labour rates and a list of equipment rates for any equipment not covered by OPSS 127 which would be in effect throughout Phase II. The Contract Administrator shall review these prices and rates prior to the date of acceptance of Phases I of the Contract.

The Contractor shall, prior to acceptance of Phase II of the Contract, supply all components required to replenish the Owner's stock of spare components to the full requirements stated for Phase I without additional payment.

#### **7.8 Phase II Final Inspection**

The Contractor shall arrange, with the Owner, a final Warranty inspection 2 months prior to the date of acceptance of Phase II of the Contract. The two parties shall inspect the all System Components to verify their physical condition and operation.

For Variable Message Signs the inspection shall include the sign display while all display elements are being exercised with an alternating test pattern (25% of pixels on) in various brightness modes. The test pattern shall be run for a sufficient period of time in order to inspect the following items:

- a) All display elements and sub-systems shall be shown to be working properly within their specified ranges. The Contractor shall immediately replace any defective components;
- b) All display elements shall be verified to exhibit consistent luminous output from pixel to pixel throughout the entire sign. The luminous consistency shall be verified in all brightness modes. The Contractor shall replace all display elements which in the opinion of the Contract Administrator do not meet this requirement;
- c) All display elements shall be verified to exhibit consistent intensity from pixel to pixel throughout the entire sign. The colour consistency shall be verified in all brightness modes.

The Contractor shall replace all system components noted as deficient prior to acceptance of Phase II.

#### **7.9 Phase II Completion**

For Contracts where UPS are supplied, the Contractor shall replace the UPS batteries from the original equipment manufacturer at the completion of Phase II.

#### **8. QUALITY ASSURANCE – Not Used**

#### **9. MEASUREMENT FOR PAYMENT – Not Used**

#### **10. BASIS OF PAYMENT**

Except in cases of damage caused by others the Contractor shall provide all labour, Equipment and Materials required to carry out the repair at no additional cost to the Owner. In the event the subsystem or any component thereof is damaged as a result of the acts or omissions by others, including employees of the Owner, other Contractors, users of the highway or trespassers, the Contractor shall carry out Emergency Repairs or component replacement forthwith as a Change in the Work.

Payment at the Contract price shall be full compensation for all labour, Equipment, Materials and services required to provide Maintenance and Warranty during Phase II. The Contract price for this item shall be not

less than [\*\*\*\* Designer Fill-In, See Notes to Designer] % of the total tender value of ATMS items as listed in the table below: [\*\*\*\*\* Designer Fill-In, See Notes to Designer]

Item Code	Item Title

Payment will be made quarterly or as otherwise agreed with the Owner. Payment will be calculated by dividing the total Contract price for this item by 20. Final payment for this item and the return of the Letter of Credit shall occur at the end of Phase II plus one month provided the subsystem is fully operational and performing according to Contract Documents and, all spare system components taken from the Owner's inventory to carry out Routine Maintenance and Emergency Repairs have been replaced in good working condition. The holdback of payments will not apply to Phase II work.

### 10.1 Non-Performance

In the event of non-performance, the Contractor shall be subject to the penalties as listed in the table below:

Description of Penalties	Amount of Penalty
Personnel not qualified to perform the Work.	\$500.00 per incident
Emergency Response time exceeded for a Critical Failure.	\$400.00 per hour or part thereof
Emergency Response time exceeded for a Non-Critical Failure.	\$100.00 per hour or part thereof
Conducting operations without police supervision when required.	\$200.00 per incident
Failure to maintain adequate spare System Components, other than items supplied by Owner.	\$200.00 per day/until rectified
Failure to arrange for repairs or replacement of System Components within allowable time limits.	\$100.00 per day/until rectified
Inappropriate use of Owner's System Components.	\$100.00 plus replacement cost
Routine Maintenance not completed within Maintenance specified times.	\$100.00 per day
Failure to comply with Occupational Health and Safety and Safety Act, a person (employee or public) is placed in imminent danger.	\$200.00 per event
Failure to clean up a spill immediately of failure to take appropriate action to prevent an impact to the environment.	\$200.00 per event

The above penalties, when confirmed justified, shall be deducted from Contract payment immediately after the occurrence.

### 10.2 Default

The Contractor shall be in default if he fails to provide Maintenance according to the procedures and schedules specified in the Contract Documents.

In the event the Contractor does not remedy the non-performance within 5 days of notification of non-performance, the Owner will deal with the Contractor according to the MTO General Conditions of Contract



and draw upon the letter of credit as required, to recover the additional costs it incurs as a result of the Contractor's default.

The Owner reserves the right to cancel the Maintenance and Warranty agreement with the Contractor at any time during the Contract without monetary compensation or notice.

#### NOTES TO DESIGNER:

- \* Identify the geographical area within which financial institution should be located. (i.e. Ottawa, GTA, Kingston, etc.)
- \*\* Fill in the location of maintenance person in kilometres.
- \*\*\* Consult with Local ATMS Maintenance to determine if any of the following work should be included in the Contract. If so, enter one or more of the following as applicable. If not, enter N/A.

#### 1) Vegetation Clearing

Vegetation clearing shall include cutting of vegetation within 5 m radius and 3 m wide path from the cabinet to the roadway. Site visits to the ATMS equipment sites for the purpose of vegetation control shall be performed during months of May and August each year.

#### 2) ATMS cabinet cleaning including wildlife removal and control;

Cabinet cleaning and rodent control shall include vacuuming inside the cabinets, removal of all rodents, nests and organic matter. Site visits for the purpose of the rodent control and cabinet cleaning shall be performed during months of November, February, May and August each year.

#### 3) Check UPS batteries;

#### 4) Graffiti removal

Removal of all graffiti present anywhere within the ATMS equipment site and shall be compliant with the Municipal by-laws local to the contract limits.

\*\*\*\* Fill in the percentage of minimum % of selected items.

\*\*\*\*\* Fill out the applicable items as contained in the Contract. Fill-in table size is reduced. Add rows as required.

**WARRANT:** Always with this tender item.